

## DIET VERY LOW IN CALORIES OR ESSENTIAL NUTRIENTS (411J, 425H, 427B)

PARTICIPANT TYPE.....	ALL
HIGH RISK.....	YES

### RISK DESCRIPTION:

**DEFINITION FOR INFANTS AND CHILDREN:** Routinely feeding a diet very low in calories and/or essential nutrients. Examples include:

- Vegan diet (consuming no animal products of any kind)
- Macrobiotic diet (based on quasi-religious philosophy that limits intake of animal-based foods and classifies foods into a system of “yin” and “yang”). In this system an optimal diet contains a balance of “yin” and “yang” foods. The belief is that an imbalance may lead to consequences such as cancer and loss of mental health.
- Other diets very low in calories and/or essential nutrients (e.g., intentionally limiting an entire food group)

**DEFINITION FOR WOMEN:** Consuming a diet very low in calories and/or essential nutrients or impaired caloric intake or absorption of essential nutrients following bariatric surgery.

Examples include:

- Strict vegan diet (consuming no animal products of any kind)
- Low-carbohydrate, high-protein diet
- Macrobiotic diet
- Any other diet restricting calories and/or essential nutrients

### ASK ABOUT:

- Family and cultural practices including religious practices affecting usual dietary pattern
- Length of time following this diet and reason for the dietary pattern
- Medical history including appetite, pregnancy discomforts, medical conditions and illnesses, perceived food allergies or intolerances
- Growth pattern, pregnancy weight gain or postpartum weight loss
- Prescription and non-prescription medications
- Dietary supplements including vitamin B12, iron, zinc, and calcium
- Knowledge and attitudes about eating practices consistent with good health outcome
- Knowledge and skills about meal planning and food preparation
- Adequacy of resources to buy food
- Number of feedings per day for infants and meals/snacks for other participants
- Protein intake

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## NUTRITION COUNSELING/EDUCATION TOPICS:

- Reinforce positive eating behaviors.
- Describe the dangers of a highly restricted diet related to participant's lifecycle stage.
  - Infants and children are particularly vulnerable due to their rapid growth and brain development. Highly restricted diets can affect the developmental progress of young children. Infants are particularly at risk if weaned early from breastfeeding or formula-feeding.
  - Pregnant women may be at increased risk for birth defects, suboptimal fetal development and chronic health problems in their children. Low calorie intake during pregnancy may also lead to inadequate weight gain which is associated with fetal growth retardation. Pregnant teens are of particular concern since their additional growth needs compete with the developing fetus.
  - Breastfeeding women will still produce an adequate milk supply and the milk content will remain stable. However, her own nutritional status will be affected.
  - Postpartum women should be encouraged to lose 1-2 pounds per week by making small changes in their calorie intake and increasing their physical activity.
- Strict vegan diets may be highly restrictive and result in nutrient deficiencies (e.g., calories, protein, vitamin B12, vitamin D, iron, zinc, and calcium).
  - Pregnant women, breastfeeding women, breastfeeding infants, and children need a regular source of vitamin B12. Explore the need for a vitamin B12 supplement.
  - For all participant categories, review adequacy of vitamin D from sun exposure and recommend supplement as needed.
  - Identify foods or supplements that will provide needed nutrients without violating the participant/parent's belief system. Adding dairy products and eggs to a well-balanced vegetarian diet is generally associated with good health.
- Macrobiotic diets may result in similar nutrient deficiencies as vegan diets. However, macrobiotic diets that include variety and balance can be nutritionally adequate for infants and children.
  - Identify an acceptable source of dietary fat for adequate growth and development.
  - High fiber intakes may affect growth or compromise mineral absorption.  
Recommend including some refined grains for adequate calorie intake and/or improved mineral absorption.
- Diets limiting entire food groups will generally lack the essential nutrients provided by that group. Identify acceptable foods or supplements that will provide the needed nutrients without violating the participant/parent's belief system.

### **NUTRITION COUNSELING/EDUCATION TOPICS (CON'T):**

- Bariatric surgery promotes weight loss by reducing the stomach size to restrict food intake. Some procedures also interrupt the digestive process and increase risk for nutritional deficiencies because food bypasses the duodenum and jejunum where nutrients like iron and calcium are absorbed.
  - Women are at risk for inadequate calorie intake and inadequate vitamins and minerals due related to limited calorie intake, especially if pregnancy occurs within 12-15 months of the surgery. Explore recommendations from primary care provider regarding multivitamin and mineral supplement.
  - Breastfeeding women are at risk for vitamin B12 deficiency for themselves and their infants. Explore the need for a vitamin B12 supplement.

### **POSSIBLE REFERRALS:**

- If restriction is self-imposed to treat or prevent a medical condition, refer to primary care provider.
- If taking non-prescribed supplements or targeted nutrition therapy products, advise to discuss with the primary care provider.
- If financial resources are limiting access to food, refer to food assistance programs.
- If the participant does not have an ongoing source of health care, refer to primary care providers in the community or the local public health department.